etc. Although technically not restricting access to other parts of the Internet, a user would need some computer/communications sophistication and knowledge of the Internet to access other areas.

No technical solution is foolproof. Once users are on the Internet, with patience, interest, and some knowledge, they can figure out how to navigate around. The library or community center could inform users what restrictions apply. With notice, random monitoring might be used to ensure that the system is being used properly. If particular children seem to be engaging in unwelcome activities, the system operator could warn them about the capability to monitor Internet accounts and online activities. As in any other area of library or community center activity, the system operator needs to be cautious that there is cause to single out a particular person or group and should not base suspicions on stereotypes. Existing constitutional and statutory limitations on access to information should not be diminished or weakened on the Information Superhighway.

7. Anonymous Usergroups, FTP Sites, and Remailers

At a community center, users want to establish anonymous usergroups, FTP (file transfer protocol) sites, and remailers. Some of this activity will support discussions of sensitive and controversial subjects. What is an appropriate response?

The importance of anonymity, and use of pseudonyms, in communications and speech is well established as part of American political and social culture. Spheres for anonymous communication should be permitted on the Information Superhighway, subject to public policies intended to secure and maintain the integrity and enforceability of rights and protections under U.S. laws. A community center could offer anonymous services and become responsible for addressing the demands and values of both anonymity and accountability. A provider of anonymous services needs to be sensitive to concerns about misuse of intellectual property, defamation, child pornography, harassment, and mail fraud.

In creating an anonymous discussion group, the moderator can require that identities of individuals be provided. This is necessary for administrative purposes, and for excluding minors from adult-only discussion groups. The anonymity of users is not complete, and users should be informed of that. Sophisticated users may know how to request anonymity under a fictitious persona. The real identity of these users will not be known. For some sensitive or controversial anonymous discussion groups, a moderator may want to require additional identification before allowing a user to join.

Because of the responsibility for balancing anonymity and accountability, a moderator may choose to engage in some supervision of content. In determining the extent of supervision, a moderator should be aware that recent court decisions suggest that more active review of system activities—for example, screening messages before distribution—may bring with it a higher level of legal responsibility for the content of communications. The moderator may be legally held responsible as an editor rather than a passive distributor of material.

Subscribers to a discussion forum should be advised in advance of the extent and nature of any monitoring, especially any intrusive monitoring. If there is any indication that

communications may lead to illegal activities (solicitation of sexual favors or gambling or exchanges of copyrighted materials), the moderator will need to take action for self-protection as well as to preserve the integrity of the discussion group. Those who engage in illegal activities or inappropriate discussions can be locked out of the group and/or reported to appropriate authorities.

An anonymous FTP site allows users to share computer files, programs, images, and other material. There is a possibility that copyrighted or other inappropriate material may be made available by some participants. Because these files are publicly available, reviewing them does not violate any privacy interests and may be the only way to prevent improper use of the facility. It is appropriate to establish standards for acceptable materials, to warn users not to upload copyrighted or other unwanted items, and to delete any file that violates the rules.

An anonymous remailer allows messages to be transmitted to a recipient without any identification of the sender. Some remailers allow recipients to respond to the anonymous senders. Others are completely anonymous, with no record of the identity of the sender. Remailers can be used for harassment and in other unwelcome ways. Systems operators offering remailers should clearly describe the nature of any supervision so that senders are aware of the rules. Operators should also be sensitive to the possibility of misuse of the remailing facility. Those who violate rules can be locked out of the system.

8. Encryption of Online Communications

At a library, a group wants to encrypt e-mail communications. Should encryption be allowed?

If users encrypt communications, the library (as system operator) will not be able to decipher the content. This lessens the system operator's ability to monitor the system and to exercise supervisory responsibilities. If users want to encrypt for a lawful purpose they people should be able to do so. Communications in an online environment are not secure from trespass and tampering, and encryption offers a remedy. In any event, users do not really need permission to encrypt. Messages can be encrypted if the sender and user agree.

The library may want to formulate general guidelines specifying the circumstances under which it will allow encryption, and it may want to review the guidelines occasionally. This would serve two purposes. First, it protects the library against charges by other users that permission to encrypt was given in an arbitrary manner. Second, the library retains some responsibility for the activities of users and for the maintenance of the online system.

9. Sale of Lists of Online Discussion Groups

A community center establishes an online discussion group for sports fans. A sports magazine approaches the community center and offers to pay for the list of names and addresses of members of this group. Should the community center sell the list?

The members of the sports group revealed personally identifiable information to the community center for purposes of engaging in an online discussion for sports fans. The individual should be informed in advance of other uses and disclosures of that information. Although the disclosure of information is related to a general category of "sports," involvement in a discussion group does not indicate that an individual is interested in other sports products or services.

If a community center wants to sell the list, then it should inform users and potential users (both in paper and electronic form) that its policy is to sell lists of discussion groups. At a minimum, individuals should have a choice of excluding themselves from any mailing list that is sold (opt-out). The choice should be offered when an individual first joins the group. An individual should have the opportunity to make a different choice later.

10. Tampering with Official Online Records

A student surreptitiously accesses school records and changes the "D" grades of selected students to "B" grades. Once the tampering has been discovered, how can school authorities determine who did it, and how can they prevent this from occurring in the future?

Given the sensitivity of the information contained in school records, school authorities may want to exclude them from online access. This would mean that teachers would not be able to enter grades or comments onto records directly, but records would be more secure from remote tampering.

If records are accessible online, the school may take preventive steps to ensure that records are not accessed inappropriately or changed. Data integrity—including accuracy, relevance, and timeliness of personally identifiable information—must be paramount on the Information Superhighway. A school that does not provide adequate security for its online systems may be liable for its negligence. Online records may call for certification or authentication to guard against deliberate or inadvertent changes.

The school should inform users that tampering with official school records is illegal and describe the consequences. Computer systems can create audit trails that track user activities and determine who accessed records and changed the grades. This may assist in determining who logged on, when, and for how long. It is possible, however, that a hacker used another student's account as a front. School authorities therefore should be thorough in their investigations before accusing a particular individual. Since the activity described here is illegal, the school may inform law enforcement authorities and seek assistance.

To lessen the prospect of inappropriate access, the school could consider encrypting student records and establishing a two-step procedure to access official records. Also, to help maintain the accuracy and completeness of student records and in keeping with the Family Educational Rights and Privacy Act, the school should give students the opportunity to see their records and to correct mistakes.

Should the school inspect the records of all students to see who logged on to the computer at the time the e-mail message was sent? This is a judgment call that the school will have to make by balancing the interest in finding and punishing a troublemaker against the privacy interest of users and the established rules for the system. If this is the first such incident, school authorities may choose to issue a severely worded warning and indicate that if this happens again the records of all students will be searched and the e-mail system will be shut down until the culprit is found.

Regardless of what the school does in response to this specific incident, once the system's security is compromised, the school should consider upgrading security. Passwords and access codes should be changed. Additionally, the school should consider a system of multilevel passwords to enable users to access e-mail or to send e-mail to all users.

11. Online Access by Other Government Agencies

In order to better coordinate activities and to identify public health problems, a county school system wants its student health records to be available online to the county health department. What should the school system do to ensure the privacy and security of the records?

The sensitive information that may appear in student health records needs to be evaluated carefully before online access is established. Needs must be balanced against risks. As part of the balancing, a school may create different security fields within records and allow the county access only to part of the records.

The school should give notice to parents and students that the records will be available online to the county. Parents may be given explicit information on the likely uses and disclosures of medical records (for example, to a county welfare department or to law enforcement authorities). Parents should have an opportunity to give their informed consent. Because of the sensitive nature of health information, it may be appropriate for parents to consent affirmatively to any subsequent uses or disclosures (opt-in rather than opt-out).

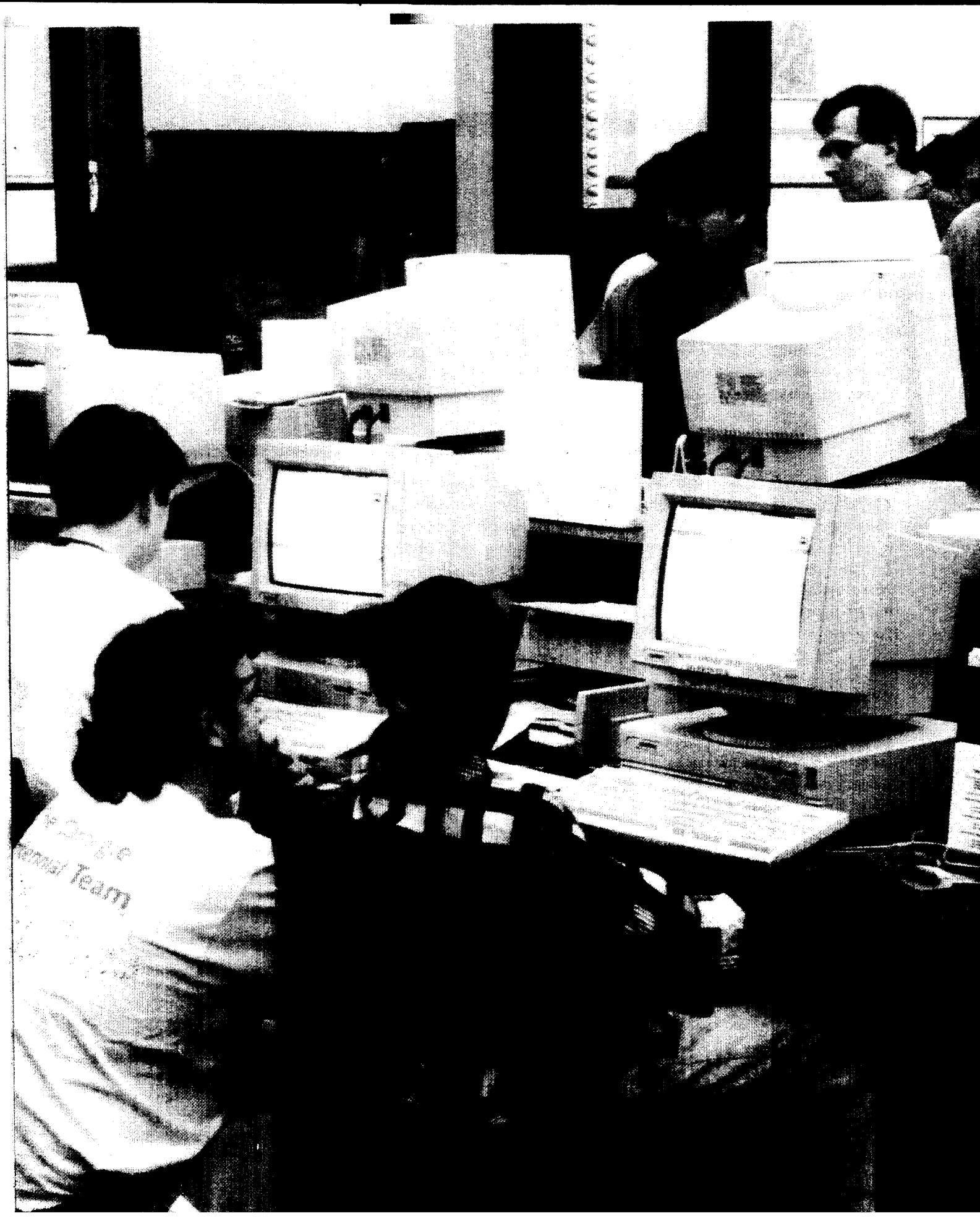
Additionally, it would be appropriate for health records to be encrypted for online transmission in order to ensure that unauthorized persons cannot obtain access or tamper with the information.

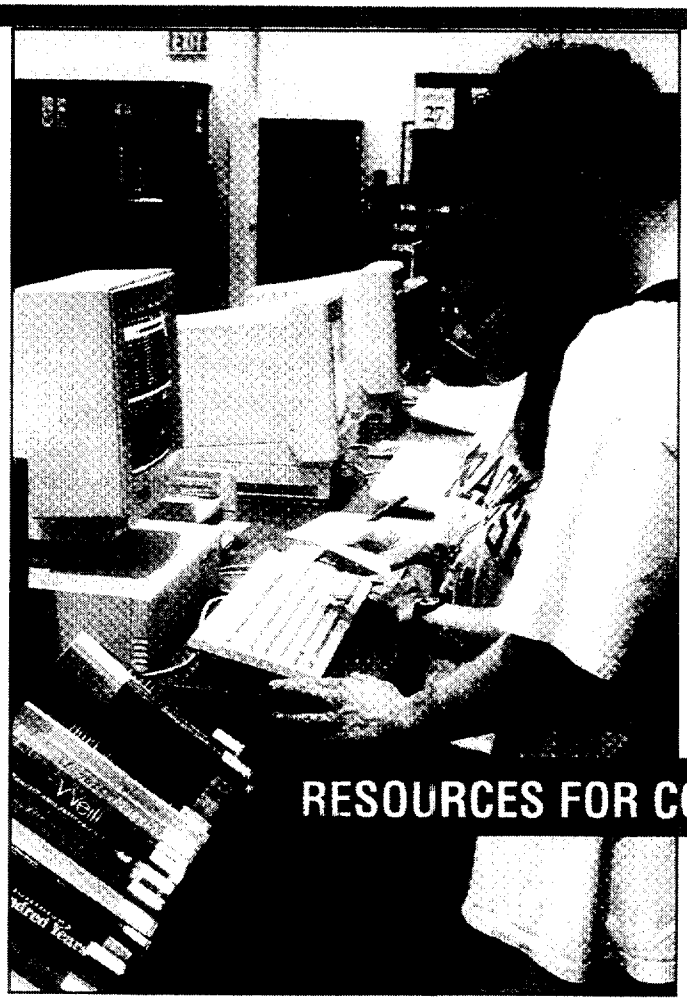
The concerns raised in this scenario (informed consent, opt-in, security levels, and encryption) would occur as a result of any request from a State or county agency to go online with a school.

12. Expectation of Privacy Scenario

During a parenting discussion group that takes place on a community center's online system, one parent alleges that another parent revealed information about him and his family that was privately communicated and not for public consumption. What should the community center do?

One of the "growing pains" that groups and individuals encounter when they join electronic, virtual, communities is determining the appropriate tone and manner of acceptable online communication. This is similar to what occurs in the world of face-to-face communities. Individuals in groups need time to acclimate themselves to the group's norms and find a style with which they and the group are comfortable. Rational discussions of differences and disagreements are one way that these norms are developed and consensus is achieved. Several days of discussion among members of the group will help all to learn from the incident, and some new norms of civility will emerge in the group. The center may want to encourage the group to set its own rules.





section4

RESOURCES FOR COMMUNITIES

part1
Resources in Print

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MUSEUMS AND ARCHIVES

Archives & Museum Informatics (journal)

INFORMATION RESOURCES FOR PRIVACY, SECURITY, AND INTELLECTUAL PROPERTY

There are organizations in the fields of education, technology, and law concerned about privacy, security, and intellectual property in the online world. Many of these publish pamphlets, fact sheets, and reports. Some have discussion groups or listserves with relevant information. Several groups are listed below. This list is not meant to be exhaustive, but to provide a way for schools, libraries, and community centers to be involved in the information exchanges and discussions on these topics.

American Federation of Musicians, 1501 Broadway, Suite 600, New York, NY 10036, Tel: 212-869-1330.

American Federation of Teachers, 555 New Jersey Avenue, NW, Washington, DC 20001, Tel: 202-393-7477.

American Federation of Television & Radio Artists, 260 Madison Avenue, New York, NY 10016, Tel: 212-532-0800.

American Library Association, 50 E. Huron Street, Chicago, IL 60611-2795, Tel: 312-944-6780.

American Publishers Association, 71 Fifth Avenue, New York, NY 10006, Tel: 212-255-0200.

American Society of Composers, Authors & Publishers (ASCAP), ASCAP Building. One Lincoln Plaza, New York, NY 10023, Tel: 212-621-6000.

Authors Guild, 330 West 42nd Street, 29th Floor, New York, NY 10036, Tel: 212-563-5904.

Benton Foundation, Communications Program, 1634 Eye Street, NW, Washington, DC 20006, Tel: 202-638-5770.

Broadcast Music, Inc., 320 West 57th Street, New York, NY 10019, Tel: 212-586-2000.

Business Software Alliance, 2001 L Street, NW, Suite 400, Washington, DC 20036, Tel: 202-872-5500.

Center for Democracy and Technology, 1001 G Street, NW, Suite 700 East, Washington, DC 20001, Tel: 202-637-9800, E-mail: info@cdt.org.

Center for Media Education, 1511 K Street, NW, Suite 518, Washington, DC 20008, Tel: 202-628-2620.

Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, Tel: 508-750-8400.

EduPage, Educom, 1112 16th Street, NW, Washington, DC 20036, Tel: 202-4200, E-mail: infro@educom.edu.

Electronic Frontier Foundation, 1550 Bryant, San Francisco, CA 94117, Tel: 415-436-9333; Fax: 415-436-9993, E-mail: eff@eff.org.

Electronic Privacy Information Center, 666 Pennsylvania Avenue SE, Suite 301, Washington, DC 20003, Tel: 202-547-5482, E-mail: info@epic.org.

Information Industry Association, 555 New Jersey Ave., NW, Suite 800, Washington, DC 20001, Tel: 202-639-8262.

Motion Picture Association of America, 1600 Eye Street, NW, Washington, DC 20006, Tel: 202-293-1966.

National Education Association. Center for Education Technology, 1201 16th Street, NW, Washington, DC 20036.

National Association of Broadcasters, 1771 N Street, NW, Washington, DC 20036, Tel: 202-429-5300.

National Music Publishers Association, 711 Third Avenue, 8th Floor, New York, NY 10017, Tel: 212-370-5330.

National School Boards Association, Institute for the Transfer of Technology to Education, 1680 Duke Street, Alexandria, VA 22314, Tel: 703-838-6722.

National Coordinating Committee on Technology in Education and Training, P.O. Box 4437, Alexandria, VA 22303, Tel: 703-351-5243.

Recording Industry Association of America, Inc., 1020 19th Street, NW, Suite 200, Washington, DC 20036, Tel: 202-775-0101.

SESAC, Inc., 55 Music Square East, Nashville, TN 37203, Tel: 800-826-9996.

Software Publishers Association, 1730 M Street, NW, Suite 700, Washington, DC 20036, Tel: 202-452-1600.

The Center for Children and Technology, 96 Morton Street, New York, NY 90064, Tel: 310-470-6590.WGA, Writers Guild of America Association (WGAE), 555 West 57th Street, New York, NY 10019, Tel: 212-767-7800.

The Children's Partnership, 1460 4th Street, Suite 306, Santa Monica, CA 90401, Tel: 310-260-1921, E-mail: HN3824@handsnet.org

The Computer Learning Foundation, Inc., 2431 Park Blvd., Palo Alto, CA 94306, Tel: 415-327-3347.

U.S. Copyright Office, Public Information Office, Library of Congress, Washington, DC 20559-6303, General Information (Tel): 202-707-3000; Hotline (to order forms and circulars): 202-707-9100.

WIPO, The International Bureau of the World Intellectual Property Organization, 34, chemin des Colombettes, 1211 Geneve 20, SUISSE.

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part 2
Resources Online

EDUCATION

Apple Computer Inc. (http://www.info.apple.com/education/)

This site is full of information on Apple's extensive education program. Also check out the Apple Classroom of Tomorrow (http://www.info.apple.com/education/acot.menu.html) Web site, which includes brief summaries of the reports conducted by the ACOT research unit.

Arkansas Science Teachers Association (http://hermes.k12.ar.us/asta)

The Arkansas Science Teachers Association, represented by more than 900 schools in Arkansas, offers teachers support for curriculum development via the public school network using WWW pages and discussion listservs among science teachers around the State.

Autodesk Foundation (http://www.autodesk.com/aboutad/foundati/foundati.htm)

This site contains general information about the foundation, as well as specifics about its Mendicino school system project and other partnerships with local school districts.

Bell South Corp. (http://www/bstbls.com/bbs/press-releases.html)

This web site offers press releases on Bell South educational technology programs.

Bolt Bernaek and Newman Inc., National School Network Testbed (http://copernicus.bbn.com/testbed2/)

BBN, a leader in the field of educational technology, describes in detail a comprehensive demonstration project in school networking.

Classroom Connect on the Net (http://wentworth.com/classroom/default.html)

This handsome and comprehensive Web site maintained by Wentworth Worldwide Media provides lesson plans, libraries, museums, science projects, and numerous other valuable resources that can be used in the classroom today. Wentworth has embarked on an ambitious multimedia publishing program for the K-12 market, including newsletters, books, videotapes, computer software, and seminars. Webworld site is full of links to important business sites and contains an impressive list of nonprofit organizations' Web sites.

Center for Networked Information Discovery and Retrieval (CNIDR) (http://www.cnidr.org)

Created by the National Science Foundation to support networked information discovery and retrieval, CNIDR hosts a number of WWW servers for information. John and Janice's Research Page, which can be reached through Janice's K-12 Outpost, shows results of an ongoing survey of schools with Internet connections.

Center for Research on Evaluation, Standards, and Student Testing (http://www.cse.ucla.edu/)

CRESST, based at the University of California at Los Angeles, offers a rich array of reports on research into alternative forms of evaluating student learning. Although not geared exclusively to the role of technology in the classroom, these papers give a detailed view of the theory and practice of "performance-based assessment," which many analysts believe must become one of the objectives of school reform.

Cityschools (http://www.ncrel.org/ncrel/sdrs/pathways.htm.)

Cityschools is a magazine that "brings research to life in actual settings by telling the stories of real educators who are finding solutions to enduring educational problems. Each issue focuses on one topic and features the work of researchers and successful practices, as well as sources of additional information. It is produced by the North Central Regional Educational Library.

Computer as a Learning Partner (http://www.clp.berkeley.edu/CLP.html#top)

In this educational research project at the University of California at Berkeley, educational researchers, natural scientists, middle school teachers, and technology experts describe a semester-long thermodynamics, light, and sound curriculum for achieving integrated science understanding that involves the innovative use of computers in the classroom. This Web site also has a lengthy list of other education-oriented Web sites.

Consortium for School Networking (http://cosn.org)

Although still under construction, this Web site promises to offer updates on important policy discussions involving school networking.

Delmar Elementary School (http://www.intercom.net/local/weeg)

Teacher Patricia Weeg maintains this homepage describing her students' many uses of the Internet—especially the KIDLINK keypal program. The Resources for Teachers section is full of links to other interesting Web sites.

Diplomats Online (AFSATEX@AOL.COM)

Diplomats Online (DOL) is an activity of the American Foreign Service Association intended to promote and sustain an ongoing dialogue on the role of the United States in the post-Cold War world. Discussions are guided by active and retired American diplomats. One of the goals of the service is to help schools see the potential for online networks as tools that can link global events to the curriculum. DOL is hosting a National History Day forum during the 1995-1996 academic year in which diplomats will serve as guides for students developing research projects on the 1995 theme "Conflict and Compromise."

Education Technology Resources (http://www.camosun.bc.ca)

For a view from Canada, look up this site of the Standing Committee on Education Technology (SCOET), a panel of volunteers representing the 20 publicly funded colleges and institutes in British Columbia, Canada. Educational Resources has a variety of interesting links.

Educom Home Page (http://www.educom.edu/).

Although oriented primarily toward higher education, this easy-to-maneuver Web site provides a wealth of information on educational technology issues from one of the early players in the field.

EDWeb (http://K12.cnidr.org:90)

The Corporation for Public Broadcasting's education site includes very useful and accessible explanations of the development of the Internet and its relationship to education reform by author Andy Carvin.

Fairland Elementary (http://www.wam.umd.edu/~toh/fairland.html)

This homepage, maintained by teacher Mary O'Haver, displays student work and includes an annotated set of links to other education sites of particular interest to teachers—including Monarch Watch.

From Now On: The Educational Technology Journal (http://www.pacificrim.net)

Maintained by Jamieson McKenzie, a teacher, school administrator, and technology expert in Bellingham, WA, this online publication is full of fascinating musings on the nature of Internet-based learning. The site also offers advice to school officials on how to plan technology acquisition and use.

Global SchoolNet Foundation (http://www.gsn.org)

A nonprofit corporation launched by a group of San Diego teachers more than 10 years ago, GSN conducts and offers assistance to teachers in designing collaborative learning projects; helps schools and other institutions develop telecomputing plans; publishes articles, disseminates model lesson plans, training materials, and instructional videos; provides newsgroups and discussion lists for classroom use; offers workshops and training; and coordinates conferences using desktop computers.

Hewlett Packard Mentor Program (http://mentor.external.hp.com)

This computer company offers to connect its employees to students in an e-mail mentoring program.

ILTWeb (http://www.ilt.columbia.edu)

The Institute of Learning Technologies, part of Columbia University, maintains this site full of readings, electronic texts, journals, and hypertext documents on the role of networked digital communication and multimedia in education. The materials are comprehensive and fascinating, but they can be difficult for the casual reader.

Institute for Learning Sciences (http://www.ils.nwu.edu)

Northwestern University's ILS—an interdisciplinary research and development center dedicated to transferring innovative educational technology from the laboratory to practical applications in businesses, schools, government agencies, and the community—builds educational software for use in multimedia computers. The site includes Engines, a "hyper-book" by Roger Shank, ILS director, and Chip Cleary, a graduate student, on the problems with the education system and how to reform it—especially through the use of educational technology.

International Education and Resource Network (I*EARN) (http://www.iearn.org/iearn/)

This Web site sponsors a variety of learning projects, mostly on environmental topics and offers conferences for teachers and education managers.

KIDLINK (http://www.kidlink.org)

This grassroots kidpal project has drawn 37,000 children from 71 countries into a "global dialogue." For a glowing recommendation, see the Delmar Elementary School homepage cited above.

LabNet (http://hub.terc.edu/terc/LabNet/LabNet.html)

A forum for K-12 science and math teachers to explore inquiry-oriented, project-based learning. The site offers teachers access to Presidential Awardees, Woodrow Wilson Fellows and other recognized teachers, discussion groups, online collaborative projects, news, and more.

George Lucas Educational Foundation (http://glef.org/)

Visitors to this site can read the foundation's mission statement, as well as brief descriptions of its newsletter and projects.

Mendocino Community Network (http://www.mcn.org)

The education pages offer an excellent and comprehensive set of lesson plans on how the Internet can be used in teaching a wide range of subjects. Other pages show how the school's networking activities have become a focal point for economic and community development.

Microsoft Corp. (http://www.microsoft.com/Services)

This site describes the software company's various products and activities involving primary and secondary education. The discussion on school curriculum is interesting, although it focuses primarily on Microsoft's own products rather than dealing with the topic generally.

NASA IITA K-12 Internet Initiative (http://quest.arc.nasa.gov/gov/nk12/home.html)

This site describes NASA's many educational activities, including online interactive projects, grants programs, assistance in learning to use the Internet in schools, and links to NASA's own online resources.

National Academy of Sciences (http://www.nas.edu/nap/online/techgap)

A clear and well-produced discussion on how computer networking can and must lead to school reform.

National Education Association (http://www.nea.org)

The National Education Association's addition to the World Wide Web is an invitation to cyberspace travelers interested in public schools. The Association hopes that for both the public and its 2.2 million members, its site serves as a valuable destination for those interested in sharing, learning, and synthesizing ideas about rebuilding the public confidence in public education.

Net Squared Education (http://www.commerce.com/net2/library/education.html)

Global Commerce Link, a communications company that provides and manages online services for businesses, offers a variety of links to schools and education resources. The links are not thematically organized, thus finding what you want can be time consuming, tedious, and chancy.

North Central Regional Educational Laboratory (http://www.ncrel.org/ncrel/)

NCREL, one of 10 regional education laboratories financed by the U.S. Department of Education, offers a useful essay discussing how changes in the nature of the economy require a different approach to schooling.

Pacific Bell Corp. (http://www.pacbell.com/SuperHi/index.html)

This Web site offers information about the company's technology program for schools.

Passport to Knowledge (http://quest.arc.nasa.gov/livefrom/passport.html)

Similar to the work of the Jason Foundation, this multimedia project takes children on two or three field trips to exotic places via live, interactive video, bolstered by taped segments. In addition, students can tap into an online encyclopedia that answers simple questions automatically and forwards more difficult ones to a group of online experts. Teachers also receive a printed guide suggesting adaptions for math, social studies, language arts, and computer classes.

Syllabus Web (http://www.syllabus.com)

Published by Syllabus Press, this site offers an eclectic collection of information on technologies used to enhance education.

Technical Education Research Centers (TERC) (http://hub.terc.edu)

TERC is a nonprofit organization that researches and promotes innovative approaches to math, science, and technology education. Its Web site describes a variety of projects involving students in collaborative online science investigations. It operates The Hub, an Internet publication service that disseminates reports, curricula, projects in progress, calendars, articles, and software of value to educators.

The Collaboratory Visualization Project (CoVis) (http://www.covis.nwu.edu)

Comprises thousands of students, more than 100 teachers, and dozens of researchers all working together to find new ways to think about and practice science in the classroom.

The Educational Resources Information Center (http://www.cua.edu/www/eric_ae/home.html)

ERIC, a national information system established in 1966 and supported by the U.S. Department of Education, contains more than 850,000 abstracts of documents and journal articles on education research and practice. As the sheer volume of the material suggests, this is a Web site for the serious researcher, not the casual reader.

The Geometry Forum (http://forum.swarthmore.edu/)

Funded by the National Science Foundation, this project, based at Swarthmore College near Philadelphia, is an electronic community dedicated to the teaching of geometry. Its most active components are discussion groups in which teachers can exchange ideas with each other and with professional mathematicians.

The Globe Program (http://www.globe.gov)

Launched by Vice President Gore, this project seeks to enlist students in measuring environmental phenomena worldwide and then to link them to scientists for data analysis and interpretation.

The Internet and Schools (http://sunsite.unc.edu/cisco/tracy-article.html)

A comprehensive report on major groups and activities shaping the Internet's role in education. This is part of the Sun Microsystems Inc. Cisco Education Archive (http://sun.site.unc.edu/cisco/cisco-home.html).

The Jason Project (http://seawifs.gsfc.nasa.gov/JASON.html)

The Jason Foundation for Education, formed by explorer Robert Ballard, organizes annual interactive field trips to a volcano in Hawaii, the Galapagos Islands, the Mayan ruins, and other locales. The foundation's substantial curriculum suggests and lesson plans stress hands-on activities and multidisciplinary approaches. Each year's project culminates in 60 hours of interactive television coverage. An online component of the program enables students to exchange notes with explorers at the scene—including students and teachers selected to represent various regions—and to help student, participate in actual research with scientists.

The Online Internet Institute (OII) (http://prism.prs.K12.NJ.US:70/0/OIIsignup.html)

This cooperative project brought together 400 teachers and an impressive array of mentors during summer 1995 to conduct workshops exploring ways to make use of the Internet in classrooms. One of the Institute's guiding lights in Ferdi Serim, a Princeton, NJ, teacher and former drummer for Dizzy Gillespie. He reports of the Institute's activities in the "Roving Reporter" section of Houghton Mifflin's GNN Education Center (http://www.gnn.com/gnn/meta/edu/index.html), which offers teachers a variety of curricula ideas as well as connections to education experts and other teachers.

The Smithsonian Ocean Planet Exhibit (http://seawifs.gsfc.nasa.gov/ocean_planet.html)

Want to take an online excursion to a current exhibit at the Smithsonian in Washington, DC? This handsome, well-organized site offers cybervisitors more information than the actual exhibit does.

West Virginia World School (http://world.school@bell-atl.com/)

This site is hosted by Bell Atlantic for the hundreds of Mountain State teachers, students, principals, and others using computers, networks, and the resources of the Internet in their classrooms.

Web66: A K12 World Wide Web (http://Web66.coled.umn.edu)

A project of the University of Minnesota College of Education and the Center for Applied Research and Educational Improvement, this site is designed to help educators establish their own Internet servers, form links with teachers and students at other schools, and find useful resources on the World Wide Web.

LIBRARIES

The following Web sites provide views about either digital libraries and/or the Information Superhighway:

- Building the Interspace: The Illinois Digital Library Project (http://surya.grainger.uiuc.edu/dli/)
- Columbia University's Project Bartleby (http://www.cc.columbia.edu/acis/bartleby/index.html)
- Dewey Web Library (http://www.umich.edu/~jmillr/WWW-libraries.html#100)
- Digital Information Infrastructure Guide (gopher://farnsworth.mit.edu/)
- Digital Libraries '95 On-Line Proceedings. The Second Annual Conference on the Theory and Practice of Digital Libraries. June 11-13, 1995, Austin, Texas (http://csdl.tamu.edu/DL95/)
- D-Lib: the Magazine of the Digital Library Forum (http://www.dlib.org)
- Informedia Digital Video Library (http://fuzine.mt.cs.cmu.edu/im/informedia.html)
- Information Infrastructure Standards Panel (IISP) (www.ansi.org/iisp/iisphome.html)
- Interoperability, Scaling, and the Digital Libraries Research Agenda: A Report on the May 18-19, 1995 IITA Digital Libraries Workshop. (http://www-diglib.standford.edu/diglib/pub/reports/iita-dlw/main.html)
- Internet Advocate: A Web-Based Resource Guide for Librarians and Educators Interested in Providing Youth Access to the Net (http://silver.ucs.indiana.edu/~lchampel/netadv.htm)
- Libraries for the Future (http://www.inch.com/~lff/lffhome.htm)
- Project MUSE (Johns Hopkins University) (http://muse.jhu.edu/)
- The Alexandria Digital Library (http://alexandria.sdc.ucsb.edu/)
- The Electronic Text Center at the University of Virginia (http://www.lib.virginia.edu/etext/ETC.html)
- The Stanford Digital Library Project (http://Mjosa.Stanford.EDU:80/diglib/)
- The UC Berkley's Digital Library Project (http://elib.cs.berkeley.edu/)
- University of Michigan Digital Library Project (http://www.sils.umich.edu/UMDL/HomePage.html)

- [XIWT -] Cross-Industry Working Team: An Architectural Framework for the National Information Infrastructure (http:/www.cnri.reston.va.us:3000/XIWT/ documents/arch_doc/title_page.html)

Arkansas Special Collections (http://www.uark.edu/libinfo/speccoll/)

Extensive catalogues of information about specialized Arkansas resources, such as selected papers and photographs of Senator William Fulbright (the Fulbright Exchange Program Papers), Orville Faubus, William Grant Still, Daisy Bates, and other historical Arkansas figures are made available online through the University of Arkansas WWW.

MUSEUMS AND ARCHIVES

- Archives & Archivists (http://miavx1.muohio.edu/~harlanjb/personal/projects/archives/)
- Impact Guide to Museums on the Web (http://www.sils.umich.edu/impact/Museums/)
- Museums on the Web (http://curry.edschool.virginia.edu/~lha5w/museum)
- Museums Online Resource Review (http://www.okc.com/morr/)
- Natural History Museum of Los Angeles County Guide to Museums and Cultural Resources on the Web (http://www.usc.edu/lacmnh/webmuseums)
- Smithsonian Institution (http://www.si.edu)
- World Wide Arts Resources (http://www.concourse.com/wwar/default.html)
- WWW Virtual Library: Museums (http://www.comlab.ox.ac.uk/archive/other/museums.html)
- Yahoo - Arts: Museums (http://www.yahoo.com/Arts/Museums)
- Yahoo - Science: Museums and Exhibits (http://www.yahoo.com/Science/Museums_and_Exhibits)
- Yahoo - Society and Culture: Museums and Exhibits (http://www.yahoo.com/Society_and_Culture/Museums_and_Exhibits)

National Center for Resource Innovations (http://www.cast.uark.edu)

National Archeological Databases and extensive catalogues of Arkansas and National Geographic Information Systems (GIS) data are available to all institutions and to county and local governments through the National Center for Resource Innovations. The Center compiles new data through remote sensing and digital photogrammetry, makes it available through a WWW interface, and offers county and local governments opportunities for technology transfer.

ACCESS.TXT (http://www.webable.com)

ACCESS.TXT is an ongoing list of known Internet and online newsgroups that address the interests and needs of people with disabilities. The purpose of this list is strictly informational. It has been developed by Mike Paciello, of DEC, with help from Dave Jaffe of the Virginia Department of Rehabilitation and Mark Gibbs and Richard Smith's *Navigating the Internet*.

American Communication Association Center for Communication Law (http://www.uark.edu/depts/comminfo/www/ACA.html)

The American Communication Association Center for Communication Law includes Internet resources focused on freedom of speech, freedom of information, freedom of religion, and telecommunications law and policy in the areas of privacy, security, and intellectual property management in the digital environment.

Benton Foundation (http://cdinet.com/benton)

The Benton Foundation's Communications Policy Project promotes public interest values and noncommercial services for the National Information Infrastructure through research, policy analysis, print, video, and online publishing and outreach to nonprofits and foundations. The Web site includes updates on communications policy and upcoming events; a forum for discussion; publications such as bulletins, policy briefings, and working papers; and cyber pages of other online resources.

Interesting Places for Kids (http://www.crc.ricoh.com/people/steve/kids.html)

Steve Sasvitzky, senior computer scientist at Ricoh California Research Center, maintains this eclectic Web page with links to child-oriented literature, museums, entertainment, and other sites.

Internetworking: Planning and Implementing A Wide-Area Network (WAN) (http://www.stl.nps.navy.mil/~rjbigelo/thesis/toc.html)

Produced by Lieutenant Randall J. Bigelow (Naval Postgraduate School) as a Master of Science thesis in information technology management, this paper documents the planning, design, and implementation of a regional wide area network connecting K-12 schools, research institutions, libraries, and institutions of higher education throughout the Monterey Bay area of California's central coast. The processes used to develop the network and resolve myriad issues are of direct relevance to the K-12 community as well as network planners, administrators, and funding partners.

Project Aladdin (http://www.uark.edu/community/comnet.html)

Project Aladdin, the Northwest Arkansas Community Information Network, provides access to city and county government information, chambers of commerce, local arts center activities, public library, regional planning commission activities, community events, and more through public kiosks positioned at the Bank of Fayetteville on the downtown square in Fayetteville. The University of Arkansas provides training and server space for community members to develop their WWW pages.

Yahoo (http://www.yahoo.com/Education/On_line_Teaching_and_Learning)

This site lists a large number of education-related sites. It gives a general sense of what is available, but it is so sweeping that much probably will not be relevant to your particular interests.

GOVERNMENT SITES

Information Infrastructure Task Force (http://iitfeat.nist.gov:94/doc/Education.html)

The Clinton Administration's interagency IITF has produced a series of papers exploring various aspects of the Information Superhighway. "A Transformation of Learning: Use of the NII for Education and Lifelong Learning" lays out arguments for how networking can change schools. The paper includes a useful bibliography.

Office of Education Research and Improvement (OERI) Bulletin (http://www.ed.gov/newsletters.html)

The Office of Education Research and Improvement (OERI) is the main research and statistics arm of the U.S. Department of Education. Last year it supported 20 national research and development centers, 10 regional education laboratoires, 16 plus information clearinghouses (ERIC), Star Schools, the National Diffusion Network, Blue Ribbon Schools, Eisenhower math/science consortia, and more. It houses, among other things, the National Center for Education Statistics, the National Library of Education, and the Department's Online Library.

The National Science Foundation Directorate for Education and Human Resources (http://red.www.nsf.gov)

The NSF is behind some of the most innovative projects to develop computer networking in education. To find a description of the Common Knowledge Project in Pittsburgh and the Learning Through Collaborative Visualization (CoVis) Project, first click on EHR programs page, click on Networking Infrastructure for Education for a variety of interesting NSF-backed projects. Also of interest is the division of elementary, secondary, and information education, which describes NSF'S Global Schoolhouse project, and has an archive of brief and interesting news about uses of technology in education.

The National Telecommunications and Information Administration WWW Server (http://www.ntia.doc.gov)

The NTIA maintains information on its programs that provide grants and assistance for information infrastructure development at this site.

Office of Technology Assessment (http://www.ota.gov)

The OTA has been a leader in promoting creative uses of technology in schools. The future of this Web site is uncertain because Congress is eliminating the agency, so check soon. It includes text of the seminal study, *Teachers & Technology: Making the Connection.*

The U.S. Department of Education Homepage (http://www.ed.gov/index.html)

This Web site contains a variety of interesting resources on education, laying out national educational policy and describing the department's activities. The technology initiative site describes the challenge grants program and lists examples of how schools are using networking.

The U.S. National Information Infrastructure Virtual Library (http://nii.nist.gov/edu.html)

The U.S. National Information Infrastructure Virtual Library provides a place where people can find out what an advanced information infrastructure really means and how they can use it in areas such as education, libraries, government services, health care, electronic commerce, and manufacturing.